November 10, 2005

Ms. Debbie Baldwin
Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, Colorado 80203

RE: Bryce 1-X Inspection Summary
Bondad, Colorado

Dear Ms. Baldwin:

LT Environmental, Inc. (LTE) is pleased to provide the Colorado Oil and Gas Conservation Commission (COGCC) with this letter summarizing the results of the recent inspection activities at the Bryce 1-X abandoned production well. Photographs collected during the field activities are presented in Attachment 1.

## PURPOSE AND SCOPE

The purpose of the well inspection was to inspect the surface completion of the Bryce 1-X well and identify, if possible, how the well had been abandoned and determine what methods and equipment are going to be needed to enter the well and assess the condition of the borehole.

The scope of work included excavating the gravel deposit around the conductor pipe in a manner that would safely allow personnel to inspect the conductor pipe at the sandstone bedrock surface within the excavation; perform a hot-tap to enter the conductor pipe; and replace the upper portion of the conductor pipe to allow a drilling and/or work-over rig to enter the well from the ground surface.

## EXCAVATION

On November 2, 2005, LTE personnel were onsite to excavate the gravel deposit around the Bryce 1-X conductor pipe down to the bedrock surface. LTE provided the excavation equipment operator and the health and safety oversight personnel, both of whom are 40-Hour Hazardous Waste Operator (HAZWOPER) certified.

The excavation depth was approximately 20 feet below ground surface (bgs) upon completion. The horizontal dimensions of the excavation measured approximately 40 feet long by 30 feet wide. In addition to the rectangular shaped excavation, LTE constructed a ramp along the north wall of the excavation approximately 50 feet long to allow safe access the bottom of the excavation. All excavation walls were benched and sloped to allow for safe entry into the excavation.

Upon completion of the excavation activities, LTE exposed the bedrock surface around the conductor pipe in a circular area with a four-foot radius using hand shovels. During the exposure

of the bedrock surface, a small fracture in the sandstone was noted radiating outward from the conductor pipe. Gas with noticeable pressure was observed seeping from the fracture.

Immediately following the completion of the excavation activities, Mr. Bill Clark of A-Plus Well Service (A-Plus) used a mallet to tap on the exterior of the conductor pipe at depth. A hollow portion of the conductor pipe appeared to be present approximately eight to ten feet below the top-of-casing (TOC).

**HOT-TAP**

On November 3, 2005, LTE and A-Plus were on site to initiate the hot-tap into the conductor pipe. Prior to entry in the excavation, LTE inspected the atmosphere at the base of the excavation and measured the gas concentration at approximately 5.0 % to 10 % of the lower explosive limit (LEL). A fan was placed in the bottom of the excavation and used to vent the vapors in the excavation. With the fan in operation, LTE measured the gas concentration at the base of the excavation at 0.0 % LEL.

A-Plus prepared the conductor pipe surface for the hot-tap collar while LTE conducted continuous atmospheric monitoring. Despite the absence of explosive vapors in the work space, embers from the welding operations ignited seeping methane gas on the soil surface at the bottom of the excavation. LTE evacuated the excavation area and extinguished the flames immediately.

In an effort to reduce the gas seepage in close proximity to the conductor pipe and allow for welding activities to continue on the conductor pipe, 10 cubic yards of concrete was placed in the base of the excavation. In addition to the concrete, LTE placed flame resistant welding blankets around the perimeter of the concrete to further increase the radius of the surface seal and divert seeping gas around the welding area.

Welding activities resumed after the concrete was allowed to cure for approximately four hours. The hot-tap was performed successfully without additional flare up. Following completion of the tap, Mr. Clark inspected the interior of the conductor pipe and determined that no inner casing was present.

**CONDUCTOR PIPE REPLACEMENT**

To prepare the conductor pipe for re-entrance using a drilling rig, the existing conductor pipe with surface plug had to be removed and replaced with open steel pipe to the ground surface. On November 4, 2005, LTE and A-Plus returned to the site to cut the existing conductor pipe off at depth and replace it with open conductor pipe. A-Plus personnel used an acetylene torch to cut the existing conductor pipe approximately 10 feet below the TOC.

A refurbished section of 16-inch steel pipe was lowered into the excavation and welded to the existing conductor pipe. Once completed, all equipment was removed from the excavation and the excavation was backfilled.

Upon completion of backfill activities, A-Plus personnel cut the conductor pipe at the ground surface leaving approximately four feet of steel pipe sticking up from the ground. A steel plate was attached to the TOC and locked with a pad lock. A ball valve assembly was attached to the exterior of the 16-inch conductor pipe at the ground surface and a four-foot long section of two-inch diameter steel pipe was erected and used to vent gas from the conductor pipe. The vent was left open before leaving the site and a sign warning of the presence of flammable gas was placed in front of the well head.

## CONCLUSIONS AND RECOMMENDATIONS

Based on LTE's observations during well inspection activities, it is clear that gas is flowing out of and around the Bryce 1-X. It appears that the Bryce 1-X is the major source of the current gas seep at the site.

Based on our observations of the sandstone bedrock adjacent to the Bryce 1-X conductor pipe, it is clear that methane gas is trapped beneath the sandstone layer. Gas trapped beneath the sandstone layer is migrating upward through fractures and in one observed instance under noticeable pressure.

LTE recommends that a chain-link fence be erected around the Bryce 1-X to reduce the potential for vandalism to the well head and provided an added level of safety to the public from the flammable vapors. LTE recommends a minimum of 15 feet of space between the well head and the fence. The chain link fence should also be equipped with barbed-wire and a pad-lock.

LTE recommends an evaluation of the implementation of a short-term passive or active gas extraction system at the Bryce 1-X wellhead to capture seeping gas. This measure will provide an added level of safety to the public by recovering seeping gas within the well and transferring the gas to an existing nearby gas pipeline system.

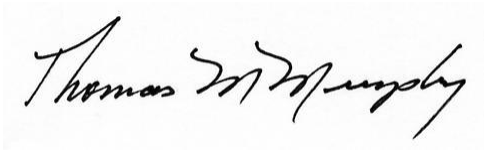
LTE recommends the installation of a network of passive or active vapor extraction wells to vent the gas trapped beneath the sandstone layer. If, in fact, the Bryce 1-X is the primary conduit, venting the trapped gas should help to limit the horizontal extent of surface gas seeps; provide an added level of safety to nearby structures (particularly the fire station); and expedite the remediation of the gas seep.

LTE recommends continued monitoring of the gas seep. Performing a soil gas survey of the seep area should be performed once every two months and more often as needed to identify changes in seep conditions and ensure the safety of the public. The results of the most recent soil gas survey, performed on November 1, 2005 will be submitted under separate cover.

LTE appreciates the opportunity to provide environmental services to the COGCC. If you have any questions regarding this report or would like additional information, please contact us at (303) 433-9788.

Sincerely,

LT ENVIRONMENTAL, INC.



John D. Peterson, P.G.
Project Manager

Thomas M. Murphy, P.G.
Vice President

Attachment

**ATTACHMENT 1**

**PHOTOGRAPHS**


Photograph 1: Excavation of Bryce 1-X, view northeast.

Photograph 2: Bryce 1-X excavation complete, note gray sandstone surface at bottom of conductor pipe, view north.

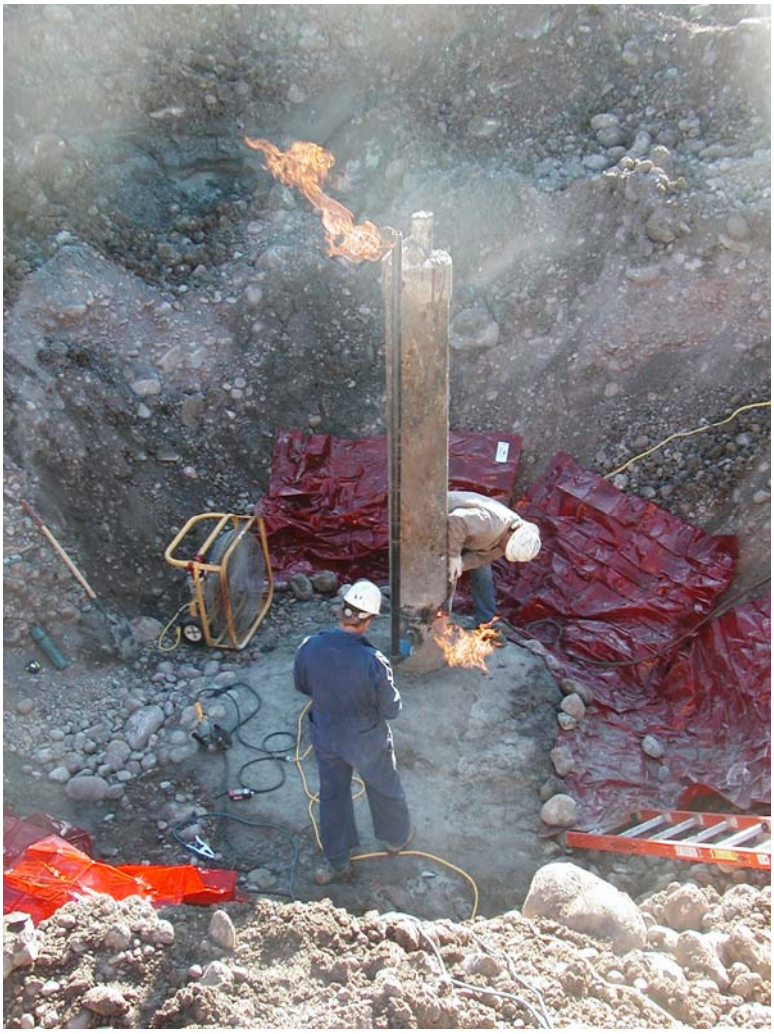
Photograph 3:  Fracture in sandstone with seeping gas.

Photograph 4:  Inspection of conductor pipe with mallet, view southeast.

Photograph 5:  Placement of concrete barrier, view east.

Photograph 6:  Hot-tap with welding blanket barriers, view southeast.

Photograph 7:  Hot-tap with welding blanket barriers, view southeast.



Photograph 8:  Cut off of existing conductor pipe, view southeast.

Photograph 9:  Removal of existing conductor pipe, view southeast.

Photograph 10:  Replacement of conductor pipe, view northeast.

Photograph 11:  Replacement of conductor pipe, view northwest.

Photograph 12:  Cutoff of conductor pipe at ground surface, view southeast.

Photograph 13:  Backfill of excavation area, view northeast.


Photograph 14:  Well head completion, view northeast.